

IN THE CLAIMS:

1 1.- 8. (Cancelled)

1 9. (Cancelled)

1 10. (Currently Amended) ~~The electrostatically actuated shutter as defined in claim 7~~
2 An electrostatically-actuated shutter for use with a fuel cell system, comprising:

3 (A) a first electrode held at a first voltage said first electrode having at least
4 one opening therein;

5 (B) a second electrode held at a second voltage, that is different than said first
6 voltage, and said second electrode having at least one opening therein;

7 (C) a diaphragm disposed between said first electrode and said second elec-
8 trode, said diaphragm having openings therein that correspond with the openings
9 in said second electrode, and which do not correspond with the openings in said
10 first electrode;

11 (D) a driver coupled to said diaphragm that adjusts the voltage of said dia-
12 phragm such that when the driver sets a voltage for said diaphragm, the dia-
13 phragm is attracted to the fixed electrode having a different voltage, and when
14 said diaphragm is drawn to said second electrode, its openings align with the
15 openings of said second electrode to create apertures through which gases and va-
16 pors can flow;

17 (E) an additional diaphragm of a configuration such that it seals over the
18 openings of the electrode to which it is drawn when said driver applies a prede-
19 termined voltage to close the shutter; and

20 | (F) an exit port through which gases and vapors are delivered from said shut-
21 | ter, wherein said diaphragm and said additional diaphragm are each coupled to
22 | separate drivers that each apply a voltage to establish a predetermined voltage dif-
23 | ferential to draw its respective diaphragm to the desired electrode in order to open
24 | and close the shutter.

1 11. (Currently Amended) The electrostatically-actuated shutter as defined in claim
2 | 107 wherein said first fixed electrode is generally flat, and said second electrode is of a
3 | dome shape, and said diaphragm is held to the closed position without an applied voltage
4 | such that the shutter is normally closed.

1 12. (Cancelled)

1 13. (Currently Amended) The electrostatically-actuated shutter as defined in claim
2 | 104 wherein one or more of said diaphragms are ~~is~~ substantially comprised of a dielectric
3 | material.

1 14. (Currently Amended) The electrostatically-actuated shutter as defined in claim
2 | 13 wherein one or more of said diaphragms is ~~are~~ substantially comprised of a polyimide
3 | dielectric material.

1 15. (Previously Presented) The electrostatically-actuated shutter as defined in claim
2 | 13 wherein said diaphragm that is substantially comprised of a dielectric material further
3 | comprises a conductive layer embedded within said dielectric material and which is con-
4 | nected to an electrical driver circuit.

1 16. (Currently Amended) The fuel cell system with an electrostatically-actuated shut-
2 | ter assembly as defined in claim 102 wherein said shutter assembly is placed adjacent to a
3 vapor chamber of one or more of said fuel cells to open and close the vapor chambers to
4 control the flow of fuel to said one or more fuel cells.

5 17. (Currently Amended) The fuel cell system with an electrostatically-actuated
6 | shutter assembly as defined in claim 102 wherein said shutter assembly is placed adjacent
7 to a cathode of one or more of said fuel cells to control the flow of oxygen to said one or
8 more fuel cells.